## REMARKS

Claims 1-4 are amended. Claim 9 is canceled. Claim 10 is added. Now pending in the application are claims 1-8 and 10, of which claim 1 is independent. Claims 5-8 are previously withdrawn. The following statements address all the ground for rejection and place the pending application in condition for allowance.

Claim Amendments

Claim 1 is amended to include the features of claim 9, and claim 9 was cancelled.

Claim 2 is amended to recite that upon start up of the fuel cell the voltage is lower than a predetermined value. Support for this amendment can be found specifically at page 10, lines 11-18, and FIG. 5 of the Specification.

Claim 3 is amended to recite that the load state measured "at start up of the fuel cell is greater than a predetermined value." Support for this amendment can be found specifically at page 12, lines 10-19, and FIGS. 6 and 7 of the Specification.

Claim 4 is amended to recite that the measured load state "is greater than a predetermined value when a predetermined time has passed since the fuel cell is started." Support for this amendment can be found specifically at page 11, line 15 to page 12, line 19, and FIGS. 6 and 7 of the Specification.

New claim 10 is added based on the description in page 9, line 14 to page 10, line 18, and FIG. 5 of the Specification and recites a voltage measuring device.

Rejection of Claims under 35 U.S.C. § 103

Claims 1-4 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0136942 to Kashiwagi (hereafter "Kashiwagi") in view of Japanese Patent Application Publication No. 2002-33110A to Kobayashi et al. (corresponding to U.S. Patent No. 6,844,094), (hereafter "Kobayashi").

The combination of the Kashiwagi reference and the Kobayashi reference do not teach or suggest *a control device that is configured to close the discharge valve and operate the fuel pump upon start up of the fuel cell*, as recited in claim 1.

The Kashiwagi reference teaches a recirculation (hydrogen) pump 11 that is operated at start up of the fuel cell stack 1. See paragraph [0028]. However, the fuel cell system disclosed in the Kashiwagi reference does not include a discharge valve in the exhaust passage 5A. Accordingly the Kashiwagi reference does not teach or suggest *a control device that is configured to close the discharge valve upon start up of the fuel cell*, as required by amended claim 1.

The Kobayashi reference teaches a hydrogen-circulation pump (33) and a three-way valve (34). When the three-way valve (34) is switched to the discharge position, the exhaust hydrogen is discharged out of the system. When the three-way valve (34) is switched to the circulation position the exhaust hydrogen is introduced in to the hydrogen circulation pump (33). See Col 7, lines 10-15. However, the Kobayashi reference, alone or in combination with the Kashiwagi reference does not teach or suggest *a control device that is configured to close the discharge valve upon start up of the fuel cell*, as required by amended claim 1.

Accordingly, Applicants respectfully submit that the Kashiwagi reference, in view of the Kobayashi reference, fails to teach or suggest each and every element of claim 1. Claims 2-4 depend from claim 1 and, as such incorporate each and every element of claim 1. Specifically, claims 2-4 incorporate additional patentable features.

According to the invention of amended claim 2, because the discharge valve is opened if the voltage of the cells upon start up of the fuel cell is lower than a predetermined value, the power generation performance of the fuel cell can be improved while maintaining the amount of consumed (or discharged) hydrogen as low as possible.

The Kobayashi reference discloses a cell voltage measurement. However, the Kobayashi reference does not disclose a control operation for a discharge valve such that the discharge valve is closed upon start up of the fuel cell and then is opened if the voltage of the cells is lower than a predetermined value, as recited in amended claim 2.

According to the invention of amended claim 3, because the discharge valve is opened if the state-of-load upon start up of the fuel cell is greater than a predetermined value, the power generation performance of the fuel cell can be improved while maintaining the amount of consumed (or discharged) hydrogen as low as possible. Neither the Kashiwagi reference nor the

Kobayashi reference discloses a state-of-load measuring device and control operations using the state-of-load measuring device.

According to the invention of amended claim 4, because the discharge valve is once closed upon start up of the fuel cell, and then is opened if the state-of-load is greater than a predetermined value when a predetermined time has passed since the fuel cell is started, the power generation performance of the fuel cell can be improved while maintaining the amount of consumed (or discharged) hydrogen as low as possible. Neither the Kashiwagi reference nor the Kobayashi reference discloses such control operations for a fuel cell.

According to the invention of new claim 10, because the discharge valve is once closed upon start up of the fuel cell, and then is opened if the voltage of the cells is lower than a predetermined value when a predetermined time has passed since the fuel cell is started, the power generation performance of the fuel cell can be improved while maintaining the amount of consumed (or discharged) hydrogen as low as possible. Accordingly, claim 10 is not obvious in light of the Kashiwagi and Kobayashi references, or combination thereof.

In light of the foregoing arguments, Applicants respectfully submit that the Kashiwagi reference, in view of the Kobayashi reference, fails to teach or suggest each and every element of claims 1-4 and 10. Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 1-4 under 35 U.S.C. §103(a) and pass the claims to allowance.

Application No.: 10/714,065 Docket No.: SIW-069RCE

## CONCLUSION

In view of the above comments, Applicants believe the pending application is in condition for allowance and urge the Examiner to pass the claims to allowance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicants attorney at (617) 227-7400.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. SIW-069RCE. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. §1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

Dated: November 20, 2007

Respectfully submitted,

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